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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,910	11/27/2006	Nadim Khat	SC13051ET	2112
23125 7590 05/12/2009 FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARKER LANE MD:TX32/PL02 AUSTIN, TX 78729			EXAMINER CORRIELUS, JEAN B	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 05/12/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USADOCKETING@FREESCALE.COM

Office Action Summary

Application No.

10/596,910

Applicant(s)

KHLAT ET AL.

Examiner

Jean B. Corielus

Art Unit

2611

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11 and 14 is/are rejected.
- 7) ☒ Claim(s) 5-6, 12-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 6/28/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

2. Claims 3 and 8-14 are objected to because of the following informalities: claim 3, line 2, "I" and "Q" should be replaced by "I and Q", in addition, please expand both "I and Q"; line 3, shouldn't "in phase quadrature" be deleted? claim 8, line 6, "a local oscillator" only refers to "one local oscillator" while the claim requires "two local oscillators" to satisfy the input requirement of the "frequency alternation circuit" that requires two oscillators so as to alternate between the first oscillator and the second

oscillator. In addition see fig. 1 and description text. Likewise, the limitation "a mixer" refers to only "one mixer" while the claim requires "two mixers". Similar comment applies to the limitation "a filter". Claim 9 recites "a second mixer", such limitation refers only to "one mixer" while the claim requires more than one such mixer (see fig. 1 and corresponding description text). Similar comment applies the limitation "a second filter" recited in claim 9. Claim 11, line 7, "filter" should be replaced by "filters". Note that any claim whose base claim is objected is likewise objected. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 7-9 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Henriksson US Patent Application Publication No. 6,829,469.

As per claim 1, Henriksson teaches an apparatus fig. 1 comprising antenna means (Note Fig. 1) for receiving a slot-based radio signal note comprising successive frames each comprising a set of reception time slots (note col. 3, lines 14-18, Henriksson teaches that the signal is received in bursts, as know in the art, a burst is formatted in frames and further in col. 3, lines 37-45, Henriksson teaches a plurality of

time slots are used); input means (Note for instance the amplifier in fig. 1) responsive to a signal from said antenna means (fig. 1) for producing an input signal; local oscillator means (note the two oscillators coupled to the switch in fig. 1) for producing at least one local oscillator signal having a local oscillator frequency (note input to the first mixer fig. 1); a mixer (note the mixer connected to the switch in fig. 1) for mixing said input signal with said local oscillator signal and producing an IF signal (note col. 3, lines 30-34); and filter means (note the filter connected between the two mixers in fig. 1) responsive to said IF signal (output of the first mixer in fig. 1) for selectively passing frequencies within a low IF range and rejecting frequencies outside said low IF range so as to produce a filtered signal (Note that the function of the Filter is to reject frequencies outside a specified band) characterized in that said local oscillator means (note the two oscillators coupled to the switch in fig. 1) includes a switch (note fig. 1) (frequency alternation means) for causing said local oscillator frequency to alternate a plurality of times during said reception time slots of each of said frames between first and second values (note col. 3, lines 37-45, i.e. first time slot and second time slot). It is noted that there is no structural difference between the claimed invention and the prior art therefore, it is the examiner position that the prior art structure is capable of alternating between a first value and a second value one of which is greater and the other smaller than the desired carrier frequency of the input signal.

As per claim 2, Henriksson further teaches a further local oscillator means (note the third oscillator in fig. 3) for producing at least one further local oscillator signal having a further local oscillator frequency; further second mixer means (note the

second mixer in fig. 1) for mixing said filtered signal with said further local oscillator signal and producing a baseband signal (note as known in the art a conversion of an IF signal produces a baseband signal); and filter means (note the third filter in fig. 1) responsive to said baseband signal for selectively passing frequencies within a baseband frequency range and rejecting frequencies outside said baseband range (note the function of the filter is to pass a desired band and to reject undesired band of frequencies).

As per claim 7, Henriksson teaches that the switch (alternation means) alternates between first and second values at each first time slot and a second time slot of the received signal.(see fig. 1 and col. 3, lines 37-45.

As per claim 8, see claim 1.

As per claim 9, see claim 2.

As per claim 14, see claim 7.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henriksson US Patent No.6,829,469 in view of Shi et al US patent No. 7,136,431.

As per claim 3, as applied to claim 1 above, Henriksson teaches every feature of the claimed invention but does not explicitly teach the limitations of "wherein said local

oscillator comprises 'I' and 'Q' channels for producing respectively I and Q components of said local oscillator signal in phase quadrature, said mixer includes I and Q mixer channels for mixing said input signal with said I and Q components of said local oscillator signal and producing respectively I and Q components of said IF signal, and said filter includes I and Q filter channels for producing I and Q components of said filtered signal, respectively." Shi et al teaches an apparatus fig. 7 comprising an oscillator 81 comprises 'I' and 'Q' channels for producing respectively I and Q components of said local oscillator signal (note fig. 7, 81), said mixer includes I and Q mixer channels 104 and 108 for mixing said input signal with said I and Q components of said local oscillator signal and producing respectively I and Q components of said IF signal note fig. 7, and a filter 114 and 116 comprising I and Q filter channels note fig. 7 for producing I and Q components, respectively. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Henriksson so as to allow the system to be used in combination with multi-value modulation schemes such as QAM modulation scheme so as to enhance system performance because higher level modulations are known to perform better than lower modulation schemes.

As per claim 4, as applied to claim 1 above, Henriksson teaches every feature of the claimed invention but does not explicitly teach the limitations of "a second local oscillator for producing I and Q further local oscillator signal components having a further local oscillator frequency; a second mixer including I and Q further mixer channels for mixing said filtered signal with said I and Q further local oscillator signal components and producing I and Q components of said baseband signal; and an I and

Q filter responsive to said I and Q components of said baseband signal for selectively passing frequencies within a baseband frequency range and rejecting frequencies outside said baseband range so as to produce I and Q components of said baseband signal, respectively.” Shi et al teaches a second local oscillator 140 for producing I and Q further local oscillator signal components having a further local oscillator frequency note fig. 7 output of 140; a second mixer including I and Q further mixer channels 142 and 144 for mixing said filtered signal with said I and Q further local oscillator signal components and producing I and Q components of said baseband signal note fig. 7 output of 142; and an I and Q filter 146 and 148 responsive to said I and Q components of said baseband signal for selectively passing frequencies within a baseband frequency range and rejecting frequencies outside said baseband range so as to produce I and Q components of said baseband signal, respectively. Note fig. 7 output of 146 and 148. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Henriksson and the motivation to do so would have been the same as provided above with respect to claim 3.

As per claim 10, see claim 3.

As per claim 11, see claim 4.

Allowable Subject Matter

7. Claims 5-6 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Note that the claims must be amended, if required, to overcome the objection set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B Corrielus/
Primary Examiner
Art Unit 2611